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In re Application of S. A. Baum
Application No. 10/671,341Atty. Docket No. P26,015 US1
Reply to Office Action dated April 21, 2005
Amendment dated October 21, 2005**REMARKS**

Claims 46 to 65 are pending in the present application. Claims 59 and 63 to 65 have been withdrawn from consideration.

Claims 46, 47, 51, 52, 55, 57, 60, and 62 have been amended by this Reply.

Claim 48 has been canceled.

No new matter has been added by these amendments. Reconsideration is respectfully requested in light of these amendments and the following remarks.

Discussion of the Oath, Section 3. of the Action

The Applicant in the present case is Stephen A. Baum. A Statement Requesting Deletion of Inventor Pursuant to 37 C.F.R. § 1.63(d)(2), dated September 25, 2005, to delete David T. Stein, was enclosed with the application as filed. Inventorship was amended by a petition titled Request for Correction of Inventorship under 37 C.F.R. § 1.48(b), dated January 23, 2001, filed in response to an Office Action dated August 23, 2000, for the parent Application No. 09/082,038, now U.S. patent No. 6,872,535. The Petition was granted in an Office Action dated January 16, 2002, in parent Application.

Discussion of the Preliminary Amendment, Section 4. of the Action

In the descriptive portion of the specification of the application, the number of the parent application has been corrected in the Cross Reference section added by the Preliminary Amendment dated September 25, 2003. Furthermore, because that application has been recently granted, the references to the patent number and issue date have been added.

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Discussion of the § 112, 1st paragraph Rejections in Paragraph 5. of the Action

The Examiner rejected Claim 57 under 35 U.S.C. §112, 1st paragraph because of the alleged lack of support for "disks". Claim 57 has been amended to delete the term "disks".

The Examiner rejected Claim 60 under 35 U.S.C. §112, 1st paragraph because of the alleged lack of support for the phrase "mechanism to keep the support immersed in a liquid". Claim 60 has been amended to change the term "mechanism" to --device--. The support for this claim is found in Paragraph [0098], especially in the third and fourth sentences.

Discussion of the § 112, 1st paragraph Rejections in Paragraph 6. of the Action

Claims 46 to 51 and 54 to 58 stand rejected under 35 U.S.C. §112, first paragraph. The § 112, first paragraph, rejection is traversed respectfully.

The Examiner directed the attention of the applicant to the *University of California v. Eli Lilly* decision.

The written description requirement does not require the claims to correspond to specific embodiments described in the specification. The general rule, particularly for inventions in predictable arts, is that an applicant may be allowed claims that cover more than the specific embodiments shown, as the prior art permits. *In re Newton*, 414 F.2d 1400, 1406, 163 U.S.P.Q. 34, 39 (C.C.P.A.). Thus, the written description requirement may still be satisfied even if claims cover more than what is described in the specification. *In re Smythe*, 480 F.2d 1376, 178 U.S.P.Q. 279, 284 (C.C.P.A. 1973).

The claimed invention encompasses the use of any transfer device to place or remove a plurality of supports arranged in a 3D array for performing parallel

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syntheses. This is not directed to chemical genus. The *University of California v. Eli Lilly* decision may be an appropriate objection in an application where the claim set is directed to a chemical genus, or other type of a genus of art that is not predictable. In the present case there is no chemical genus that is being claimed, but methods of functionalizing plurality of supports and performing parallel synthesis in a 3D array. As such, it is a part of predictable arts, and the application of the *University of California v. Eli Lilly* decision is not appropriate.

The Examiner states that the specification describes three devices. In predictable arts a single example is sufficient for support for written description purposes.

A withdrawal of the § 112, 1st paragraph, rejection is requested respectfully.

Discussion of the § 112, 2d paragraph Rejection in Paragraph 8. of the Action

In subparagraph a., the Examiner rejected Claim 46 and claims dependent thereon under 35 U.S.C. §112, 2d paragraph for failing to particularly point out and distinctly claim the subject matter; namely, the Examiner rejected of the terms “3D array” and 3D diversity”. This rejection is traversed respectfully. The term “3D array” is defined in paragraphs [0011] to [0013] and [0045] to [0046]. The concept of three-dimensional parallel synthesis is described, inter alia, in Figure 1. The term “3D diversity” is described in several places in the application, such as in paragraphs [0052] and [0053]. Reconsideration of this rejection is requested respectfully.

In subparagraph b. of paragraph 8. of the Action, the Examiner rejected Claims 47, 51, 55 as indefinite because the variable R1 is not defined in the claims. The Applicant amended these three claims by deleting the term “R1” and substituting the term --initial building block-- therein. The support for this

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amendment is found in the second sentence of paragraph [0013], and in the last two sentences of paragraph [0050].

Discussion of the Double Patenting Rejection in Paragraph 10. of the Action

The Examiner rejected Claims 46 to 49 and 54 to 58 under the obviousness-type double patenting in view of claims 1-12 in U.S. Patent No. 6,541,211 (the '211 patent). The obviousness-type double patenting rejection is traversed respectfully.

Claim 46 of the present application states in step a.: "a) functionalizing a plurality of solid-phase supports". None of the '211 patent claims are directed to a method that incorporates the recitation that the solid-phase supports are functionalized.

Reconsideration by the Examiner and withdrawal of this rejection are requested respectfully.

Discussion of the § 102(e) Rejections in Paragraph 12. of the Action

Claims 46, 47, 50, 51 and 55 to 58 have been rejected under 35 U.S.C. 102(e) as being anticipated by Campbell *et al.*, U.S. Patent No. 6,083,682.

Claim 46 has been amended, in part, to include selected recitation of Claim 48, and Claim 48 has been deleted. Claim 46 has also been amended to clarify the invention. The amendment added the phrase --using a support transfer device;-- to step b) of Claim 46. Campbell does not disclose the use of a support transfer device to place the plurality of support in a 3D array.

In the Action, Claim 48 was not rejected under § 102(e). By amending in this manner Claim 46, and thus all of the claims dependent on Claim 46, namely Claims 47 to 65, it is believed that this rejection has been overcome. Therefore,

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reconsideration by the Examiner and withdrawal of this rejection are requested respectfully.

Discussion of the §103 Rejection in Paragraph 13. of the Action

Claims 46, 47, 49 to 51 and 54 to 58 were rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell *et al.* and Hudson, U.S. patent No. 5,585,275.

Claim 46 has been amended, in part, to include selected recitation of Claim 48. The amendment added the phrase --using a support transfer device;-- to step b) of Claim 46. Neither Campbell nor Hudson disclose or suggest the use of a support transfer device as defined in amended Claim 46 to place the plurality of support in a 3D array.

In the Action, Claim 48 was not rejected under § 103(a). By amending in this manner Claim 46, and thus all of the claims dependent on Claim 46, namely Claims 47 to 65, it is believed that this rejection has been overcome. Therefore, reconsideration by the Examiner and withdrawal of this rejection are requested respectfully.

Discussion of the §103 Rejection in Paragraph 14. of the Action

The Examiner rejected Claims 46 to 48, 49 to 51 and 54 to 58 under 35 U.S.C. 103(a) as being unpatentable over Campbell *et al.* in view of Nova *et al.*, U.S. Patent No 5,961,923, Moran *et al.*, WO 97/35198, or Lebl *et al.* U.S. Patent No. 6,045,755. The Campbell method, according to the Action, page 14, does not teach a support transfer device for placing the supports in the 3D array. The Examiner further states on page 14, 3d paragraph, that certain support transfer devices were known in the art.

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Claim 46 has been amended to incorporate selected recitation of Claim 48, as stated above. Furthermore, Claim 46 has been amended by the addition of phrase --wherein the support transfer device transfers a plurality of support transfer a plurality of solid-phase supports -- . The addition of this phrase defines the support transfer device. The support for such clarification of the nature of the support transfer device is found in several places in the descriptive portion of the specification, including the Abstract, paragraphs [0012], [0047], [0078], [0085], [0095], and figures to which the paragraphs refer.

Nova, directed to matrices with memories, discloses placement of solid support using an apparatus that places or removes MICROBALLS or MICROTUBES one at a time. The placement of solid supports is disclosed as performed one solid support at a time. There is no disclosure or suggestion in Nova that the placement of solid support is performed with a support transfer device that transfers a plurality of supports at a time. One of ordinary skill in the art at the time would have not been able to combine the teachings of Nova and Campbell to arrive at the presently claimed invention which incorporates the use of a support transfer device that transfers a plurality of solid-phase supports. One of ordinary skill in the art at the time of the invention claimed in the present application would have not been able to combine the teachings of Moran and Campbell to arrive at the presently claimed invention.

Moran, *et al.*, disclose a method for spatially-dispersed positionally encoded combinatorial library synthesis. Moran does not disclose any transfer device which may be used to transfer solid support. The "carrier devices" referred to in the first line of page 15 of the present action, refer to portable support structures or platforms which may be in the form of a tray, grid or other form for positionally holding a plurality of solid supports in predetermined spatial arrays. "The arrays of solid supports are preferably arranged in support carriers (hereafter referred to as

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"carriers")." See Moran, page 9, lines 6 to 8. The solid supports, according to Moran, page 7, lines 1 to 3, "may be constructed such that they are capable of being transferred mechanically from one support carrier to another support carrier." The "carrier" of Moran may be analogous to a well plate, 3D array, of the present invention, and but not to a transfer device. Although Moran discusses that the transfer of solid supports (see, for example, page 9, lines 16 to 37), no device is disclosed. There simply is no device described or exemplified in Moran which can be considered a transfer device that transfers a plurality of solid-phase supports. One of ordinary skill in the art at the time of the invention claimed in the present application would have not been able to combine the teachings of Moran and Campbell to arrive at the presently claimed invention.

Lebl *et al.* is directed to apparatus and method for combinatorial chemistry synthesis. Lebl does not disclose a transfer device that transfers a plurality of solid-phase supports. None of the automated devices listed on page 15, lines 4 to 5, which are alluded to in Lebl are transfer devices that transfer a plurality of solid-phase supports. In any case, Lebl does not disclose any 3D arrays; all arrays are simply two-dimensional. One of ordinary skill in the art at the time of the invention claimed in the present application would have not been able to combine the teachings of Moran and Campbell to arrive at the presently claimed invention.

At the closing of paragraph 14., the Examiner states that it would have been *prima facie* obvious to one of the ordinary skill in the art to utilize the Nova/Moran/Lebl support transfer devices with Campbell method and arrive at the presently claimed invention. The applicant disagrees. According to MPEP, § 2143

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference

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(or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

As shown above, there simply is no teaching in Nova, Moran, or Lebl, either individually or any combination thereof, which would yield a transfer device that transfers a plurality of solid-phase supports. A combination of Nova, Moran, or Lebl, or any combination thereof, when combined with Campbell would not lead a person to practice the claimed method of functionalizing a plurality of solid supports, placing the plurality of supports in a 3D array using a support transfer device which transfers a plurality of solid-phase supports and performing parallel synthesis of a library of molecules in the 3D array of supports with 3D diversity.

Additional amendments

Claim 48 has been deleted, because the recitation of Claim 48 has been incorporated into Claim 46. Furthermore, the dependency of Claim 52 has been amended from Claim 48 to Claim 46.

Paragraphs [0007] and [0072] have been amended to correct typographical errors. Namely, the term "beer;" in paragraph [0007] has been replaced with --been--. The term "km" in paragraph [0072] has been replaced with --µm--. The support for such amendments is found in the parent case 09/082,038, now U.S. Patent No. 6,872,535, where these typographical errors are not present. Claim 55 has amended in part to correct the grammatical error found in the original.

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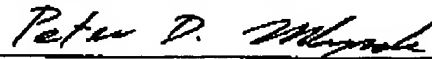
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In view of the foregoing claim amendments and remarks, applicants request that the claims be allowed.

In the event any issues remain outstanding, the Examiner is requested to call the undersigned at the telephone number listed below.

A petition for a three-month extension is being filed concurrently herewith. The Commissioner is authorized hereby to charge any additional fees or credit any overpayment associated with this Reply to Deposit Account No. 19-5425.

Respectfully submitted,



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